

| NO | PROJECT TITLE | PRINCIPAL INVESTIGATOR | DATE START | DATE END | AMOUNT AWARDED(RM) |
|----|---|---|------------|------------|--------------------|
| 1 | SMART TEXTILES - MODERNISATION OF CURRICULUM OF TEXTILE ENGINEERING AND TEXTILE TECHNOLOGY IN INDONESIA, MALAYSIA AND PAKISTAN (SMARTEX) | MOHD. ROZI BIN AHMAD | 15/1/2020 | 14/1/2022 | 654,512.28 |
| 2 | DESIGNING HIH LIGHT HARVESTING EFFICIENCY OF DYE-SENSITIZED SOLAR CELLS USING UP/DOWN CONVERSION MATERIALS | AB MALIK MARWAN BIN ALI | 1/2/2020 | 31/12/2022 | 136,800.00 |
| 3 | UNDERSTANDING THE ECOLOGICAL CONSEQUENCES OF CLIMATE CHANGE TO FOREST GROWTH PATTERN IN PENINSULAR MALAYSIA | FAEZAH BINTI PARDI | 1/6/2020 | 31/5/2022 | 25,000.00 |
| 4 | HAND SANITIZER | FAZLENA BINTI HAMZAH | 1/8/2020 | 1/1/2021 | 50,000.00 |
| 5 | HYDROTHERMAL CARBONIZATION OF FOOD WASTE AS A SOURCE OF POTENTIAL SOLID BIOFUEL 2) TERIMA PERUNTUKAN BERJUMLAH RM 55,648.50 PADA 23 FEBRUARI 2021 (RUJUKAN : PAYLINK GIRO 1200000221/CPD /ACH) | ALI H. JAWAD AL-TAIE | 20/8/2020 | 20/6/2021 | 10,644.00 |
| 6 | MANGROVE FISH COMMUNITY AND POPULATION STRUCTURE, AND FISHERIES OF PULAU TUBA, LANGKAWI | HARINDER RAI SINGH | 1/11/2020 | 31/10/2021 | 10,000.00 |
| 7 | DEVELOPMENT OF N PROTEIN TARGETED APTAMER BASED ELECTROCHEMICAL BIOSENSOR POTENTIALLY AS SARS COV 2 TESTING TEST | NURSYAMSYILA BINTI MAT HADZIR | 1/11/2020 | 31/10/2021 | 20,000.00 |
| 8 | DEVELOPMENT OF ANIMAL (CHICKEN) FEED FROM DEFATTED MICROALGAL CAKE (DMC) -CHARACTERISATION OF DEFATTED MICROALGAL CAKE FOR ANIMAL FEED | SEOW ENG KENG | 15/11/2020 | 30/6/2021 | 22,890.00 |
| 9 | INVESTIGATION OF SQUEEZED STATES OF LIGHT IN KERR NONLINEAR COUPLER THE ANALYTICAL METHOD | ABDEL BASET MOHAMED EL NABWI ABDEL HAMID IBRAHIM | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 10 | EFFECT OF MACRONUTRIENTS COMPOSITION ON GLYCAEMIC INDEX OF A FOOD MODEL SYSTEM. | AISAH BT BUJANG | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 11 | DESIGN AND EXPLORATION OF CATALYTIC ACTIVITY OF NEW MANGANESE AND VANADIUM IMINE COMPLEXES GRAPHENE OXIDE GO FOR ALKENE EPOXIDATION | AMALINA BINTI MOHD TAJUDDIN | 21/12/2020 | 20/12/2022 | 50,000.00 |

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| 12 | IN VITRO PROPAGATION AND ANTIOXIDANT PROPERTIES OF ANDROGRAPHIS PANICULATA | AZANI BT SALEH | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 13 | FABRICATION AND CHARACTERIZATION OF CHITOSAN POLY VINYL ALCOHOL PEDOT PSS SCAFFOLDS FOR CARDIAC TISSUES | AZLAN BIN ZAKARIA | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 14 | VALORIZING LOCAL AGRICULTURAL WASTE INTO HIGH-VALUE BIOPOLYMER BY CELLULASE PRODUCING, PHA ACCUMULATING BACTERIA. | ERNIE EILEEN BINTI RIZLAN ROSS | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 15 | MULTIVARIATE CHEMOMETRIC DISCRIMINATION OF BALLPOINT AND GEL PEN INKS BASED ON COLORIMETRY AND SPECTROSCOPIC TECHNIQUES | EZLAN BIN ELIAS | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 16 | THE PRESENCE OF MICROPLASTIC IN SEAWEED CAULERPA SP | FAEIZA BT BUYONG | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 17 | ADAPTATION OF HYDROXYLATION PROCESS TO GAN AND ALGAN SURFACE FUNCTIONALISATION FOR THE DEVELOPMENT OF REFERENCE ELECTRODE FREE GLUCOSE SENSOR | FARAH LIYANA BINTI MUHAMMAD KHIR | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 18 | CYTOTOXICITY EFFECTS OF GREEN SYNTHESIZED IRON OXIDE NANOPARTICLES ON BREAST CANCER CELL LINES. | FARIZAN BINTI ARIS | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 19 | SYNTHESIS, CHARACTERIZATION AND REACTIVITY OF TRANSITION METAL COMPOUNDS (TMCS) AS ADDUCTS FOR ELECTROCHEMICAL CATALYST OF HYDROGEN EVOLUTION REACTION (HER) | HADARIAH BINTI BAHRON | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 20 | EXTRACTION OF SAPONIN FROM HYLOCEREUS UNDATUS WHITE DRAGON FRUIT FOLIAGE AS NATURAL SURFACTANT IN STABILIZING WATER IN OIL AND OIL IN WATER NANOEMULSIONS | HAIRUL AMANI BT ABDUL HAMID | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 21 | SYNTHESIS AND ADSORPTION STUDIES OF MICRO-MESOPOROUS SILICA MATERIALS FROM SOLID WASTE BOTTOM ASH | HAMIZAH BINTI MD RASID | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 22 | METAL LAYERED DOUBLE HYDROXIDE FROM AGRICULTURAL INDUSTRY | HAMIZAH BINTI MOHD ZAKI | 21/12/2020 | 20/12/2022 | 10,000.00 |
| 23 | CONTROLLED RELEASE OF DRUGS DELIVERY VIA CORE-SHELL ELECTROSPUN POLYMERIC (PVA-CHITOSAN) BLEND NANOFIBERS | KHAIRUNNADIM BIN AHMAD SEKAK | 21/12/2020 | 20/12/2022 | 20,000.00 |

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| 24 | ENGINEERED TiO ₂ NANOPARTICLES TOWARDS INHIBITION OF ANTHRACNOSE DISEASE IN CHILI (CAPSICUM SPP.) | LIM YING CHIN | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 25 | CHARACTERISATION OF MUTANT VOLVARIELLA VOLVACEA GROWN ON DIFFERENT TYPES OF SUBSTRATE | LYENA WATTY ZURAINI BINTI AHMAD | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 26 | THE POTENTIAL OF CITRUS PEEL POLYGALACTURONIC ACID (PGA) BASED BIODEGRADABLE PLASTICS REINFORCE WITH MICROCRYSTALLINE CELLULOSE FROM BACTERIA. | MARYAM BINTI HUSIN | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 27 | STRAITS OF MALACCA TIDAL WAVE ANALYSIS USING AUTOMATIC IDENTIFICATION SYSTEM AIS DATA | MASNAWI BIN MUSTAFFA | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 28 | APPLICATION OF CHEMOMETRIC TECHNIQUES ON SPECTROSCOPIC DATA FOR THE IDENTIFICATION AND PATTERN DISTRIBUTION OF GUNSHOT RESIDUE (GSR) | MOHAMED IZZHARIF BIN ABDUL HALIM | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 29 | OPTIMIZATION, CHARACTERIZATION AND IDENTIFICATION OF ANTIOXIDAIVE PEPTIDES GENERATED FROM MUNG BEAN SPROUT PROTEINS | MOHAMMAD ZAREI | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 30 | SPECTROSCOPICALLY PROBING MICROVISCOSITY OF ROOM TEMPERATURE IONIC LIQUIDS RTILS AND MOLECULAR SOLVENTS BY ENVIRONMENT SENSITIVE FLUORESCENT MOLECULAR ROTORS | MOHD AZIZI BIN NAWAWI | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 31 | STRUCTURAL PROPERTIES OF IONIC LIQUID POLYMER ELECTROLYTES | MOHD AZRI BIN AB RANI | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 32 | THE ENHANCEMENT OF SURFACE CONDUCTING NOVEL CRYSTALLINE ZINC OXIDE NANOSTRUCTURES DOPED WITH NIOBIUM ON Si NANOPOROUS | MOHD HUSAIRI BIN FADZILAH SUHAIMI | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 33 | HYBRID CDS ZNO BLENDED POLYMER MEMBRANE FOR VISIBLE LIGHT PHOTOCATALYTIC DEGRADATION OF PHARMACEUTICAL ORGANIC POLLUTANTS | MOHD LOKMAN BIN IBRAHIM | 21/12/2020 | 20/12/2022 | 50,000.00 |
| 34 | PHYSICAL MECHANICAL AND CHEMICAL PROPERTIES OF MICROCRYSTALLINE CELLULOSE FROM WASTE PAPER SLUDGE | MOHD NAZARUDIN BIN ZAKARIA | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 35 | USER ACCEPTANCE TEST OF WAY-GY CHLORELLA-HONEY IMMUNE SYSTEM BOOSTER COOKIES PACKAGING DESIGN | MOHD SHAFIQ BIN AAZMI | 21/12/2020 | 20/12/2021 | 25,000.00 |

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| 36 | METHOD DEVELOPMENT AND VALIDATION OF MULTIRESIDUES MYCOTOXINS IN COCOA AND COCOA PRODUCTS BY HIGH RESOLUTION MASS SPECTROMETRY | MUHD FAUZI BIN SAFIAN | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 37 | PHYSICAL AND AESTHETIC COMFORT STUDY ON SUSTAINABLE FACE MASK | NAJUA BINTI TULOS | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 38 | EFFECT OF CHEMICAL COMPOSITION ON PROPERTIES OF SPEEK ION EXCHANGE MEMBRANES | NAZLI BIN AHMAD AINI | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 39 | COMPARISON STUDY OF MNCOCR TERNARY LAYERED DOUBLE HYDROXIDE WITH MNCO LAYERED DOUBLE HYDROXIDE ON SUPERCAPACITOR EFFICIENCY | NAZRIZAWATI BINTI AHMAD TAJUDDIN | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 40 | ASSESSMENT OF URBAN TRAFFIC NOISE IN SELECTED AREAS OF KUALA LUMPUR | NIK AZLIN BINTI NIK ARIFFIN | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 41 | EFFECT OF DIFFERENT PRECURSOR OF HUMMERS METHOD IN SYNTHESIS GRAPHENE OXIDE USING REGENERATE CARBON BLACK FROM WASTE TYRE | NOOR NAJMI BINTI BONNIA | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 42 | COLOURFASTNESS PROPERTIES OF INFRA RED BANDICOOT BERRY LEEA INDICA DYED SILK | NOR JULIANA BINTI MOHD YUSOF | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 43 | IMPROVED PROFILE STABILITY HDPE PIPE FOR HORIZONTAL DIRECTIONAL DRILLING HDD APPLICATIONS | NORAZURA BINTI IBRAHIM | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 44 | PROFILING OF BACTERIAL PANICLE BLIGHT DISEASE IN INFECTED PADDY FIELD IN MALAYSIA BY PHYLOGENETIC ANALYSIS | NORFATIMAH BINTI MOHAMED YUNUS | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 45 | ESTABLISHING LOCALISED CONSTANT (K) OF METHANE GENERATION RATE | NURZULAIFA SHAHEERA ERNE BINTI MOHD YASIM | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 46 | THERMOPLASTIC POLYURETHANE BASED ON WASTE COOKING OIL POLYOL AS PRECURSOR | RADIN SITI FAZLINA NAZRAH BT HIRZIN | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 47 | IDENTIFICATION OF UV PHOTOPROTECTANT MYCOSPORINELIKE AMINO ACIDS MAAS IN LOCAL CYANOBACTERIA AND ALGAL ISOLATES | RAFIDAH BINTI RASOL | 21/12/2020 | 20/12/2022 | 20,000.00 |

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| 48 | THE DEVELOPMENT OF REACTION FOR TAR CRACKING USING IRON ORE CATALYST VIA HYDROTHERMAL COLIQUEFACTION OF MICROALGAE AND LOW RANK COAL | RAJA RAZUAN BIN RAJA DERIS | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 49 | HEAT TREATED MALAYSIAN MUSHROOMS: RELATIONSHIP BETWEEN BIOACTIVE FACTORS, HEALTH PROMOTING EFFECTS AND CONSUMER PERCEPTION | RASEETHA VANI A/P SIVA MANIKAM | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 50 | CLASSIFICATION AND DIFFERENTIATION OF PRINTED LASER TONERS USING COMBINATION TECHNIQUES OF SPECTROSCOPIC AND CHEMOMETRIC | REENA BINTI ABD RASHID | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 51 | SYNTHESIS OF NOVEL AL ₂ O ₃ /PAA-DES NANOFUID TO ENHANCE THERMAL CONDUCTIVITY AND SPECIFIC HEAT CAPACITY IN THERMAL ENERGY STORAGE | ROSLINDA BINTI FAUZI | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 52 | EFFECTS OF CROSSLINKER ON THE SWELLING BEHAVIOR AND MECHANICAL PROPERTIES OF HEMICELLULOSE SEMI-INTERPENETRATING POLYMER NETWORK (IPN) NANOCOMPOSITE HYDROGEL FILM | SABIHA HANIM BINTI SALEH | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 53 | SINGLE AND BILAYER COMPOSITE COATINGS OF POLYANILINE AND POLY M AMINOPHENOL FOR CORROSION PROTECTION OF MILD STEEL | SABRINA BINTI M YAHAYA | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 54 | THE ENHANCEMENT OF POLYHYDROXYBUTYRATE (PHB BIOPLASTIC) SYNTHESIS BY CHLORELLA SP. VIA NUTRIENT MODULATION | SHARIF BIN CHE IBRAHIM | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 55 | EFFECTS OF HYDRO THERMAL MODIFIED COAL BOTTOM ASH AS FILLER IN POLYMER COMPOSITE | SHARIL FADLI BIN MOHAMAD ZAMRI | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 56 | THE BIOVERSITY VALUE OF A TRUE EPIPHYTE FICUS DELTOIDEA IN MALAYSIAN OIL PALM AGROECOSYSTEMS | SITI KHAIRIYAH BINTI MOHD HATTA | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 57 | PHOTOCATALYTIC ACTIVITY OF CR-DOPED TiO ₂ /PVA NANOFIBER VIA SOL-GEL AND ELECTROSPINNING TECHNIQUES | SITI NURBAYA BINTI SUPARDAN | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 58 | RELEASE CHARACTERISTICS OF PHOSPHATE FROM THE OXIDIZED MAGNESIUM BIOCHAR SLOW-RELEASE FERTILIZER | YONG SOON KONG | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 59 | REINFORCEMENT OF NATURAL RUBBER LATEX WITH CELLULOSE NANOFIBRILS ISOLATED FROM CUCUMBER POMACE | ZAINATHUL AKHMAR SALIM BT ABDUL SALIM | 21/12/2020 | 20/12/2022 | 20,000.00 |

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| 60 | ENHANCE PRIMARY STUDENTS' PERFORMANCE BY INVESTIGATING THE IMPACT OF SURROUNDING CLASSROOM NOISE WITH BLOOD PRESSURE LEVEL AND STUDENT ACHIEVEMENT | ZITTY SARAH BINTI ISMAIL | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 61 | SYNTHESIS GRAPHENE OXIDE FROM RECYCLE CARBON BLACK BY USING HUMMERS METHOD WITH DIFFERENT TYPE OF PRECURSOR | ZURIANTI BINTI ABD RAHMAN | 21/12/2020 | 20/12/2022 | 20,000.00 |
| 62 | BIODEGRADABLE PLASTIC USING SELECTED SPECIES OF GREEN (CHLOROPHYTA) AND BLUE GREEN (CYANOPHYTA) MICROALGAE AS A SOURCE FOR BIOPLASTIC PRODUCTION | ASMIDA BINTI ISMAIL | 23/12/2020 | 22/12/2022 | 20,000.00 |
| 63 | FUNDAMENTAL STUDY ON CELLULAR STRUCTURE AND COMPRESSION PROPERTIES OF RUBBER FILLED FLEXIBLE POLYURETHANE FOAMS | HAIRANI BINTI TAHIR | 23/12/2020 | 22/12/2022 | 20,000.00 |
| 64 | SYNTHESIS, ANTI-MALARIAL AND MOLECULAR DOCKING SIMULATION STUDY OF CODINAEOPSIN AS UNIQUE TETRAMIC ANTI-MALARIAL TYPE COMPOUNDS | MOHD ABDUL FATAH BIN ABDUL MANAN | 23/12/2020 | 22/12/2022 | 20,000.00 |
| 65 | COMPARATIVE STUDY OF POTASSIUM SALT-LOADED MGAL HYDROTALCITES CATALYST FOR THE SYNTHESIS OF 5-ARYLIDENE MELDRUM'S ACID DERIVATIVES VIA KNOEVENAGEL CONDENSATION WITH DIFFERENT AMINE & BENZALDEHYDE GROUPS | NOOR HIDAYAH BINTI PUNGOT | 23/12/2020 | 22/12/2022 | 20,000.00 |
| 66 | SUSTAINABLE LIGHTWEIGHT AND DURABLE FORMWORK IN CONSTRUCTION APPROACH USING NANOCRYSTALLINE CELLULOSE REINFORCED POLY(LACTIC ACID)/ EPOXIDISED JATROPHA OIL BIO NANOCOMPOSITE | SITI HASNAH BINTI KAMARUDIN | 23/12/2020 | 22/12/2022 | 20,000.00 |